

The Builder.

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THE recent investigations of circumstances affecting the health of the masses, have caused the importance of pure air and light to be more generally understood now than it was before. The simple fact set forth by Dr. Arnott long ago, that a canary bird suspended near the top of a curtained bedstead, in which people are sleeping will generally be found dead in the morning, should have been sufficient to shew the danger of breathing a vitiated medium, and the necessity for providing a constant and ample supply of fresh air in our dwellings.

Impure air, however, cannot be seen,—its effects are not immediate,—and so it has been allowed quietly to kill its thousands annually, and to lay the seeds of disease in other thousands ready to be developed by assisting circumstances, without an effort to stay its ravages, and almost without a knowledge of its agency.

A healthy man respires about twenty times in a minute, and inhales in that period about 700 cubic inches of air. Fresh air contains rather more than twenty-three per cent. of oxygen, and about one and a half per cent. of carbonic acid: by the process of respiration the oxygen is reduced, in round numbers, to eleven per cent., and the carbonic acid is increased to rather more than eight per cent. Now, three and a half per cent. of this gas render air unfit to support life; so that a man in respiring 700 cubic inches in a minute, vitiates about 1630 cubic inches (to say nothing of the effect produced by the exhalation from the skin); and this will serve to give some notion of the large quantity of air required for the healthful occupation of a building by a number of persons.

All this, however, was for long unthought of, as we have already said, but the concurring evidence of scientific investigators and able medical men, shewing the effect of imperfect ventilation, especially in producing consumptive diseases, fever, and scrofula, repeated in all shapes by the press, has at last made the public aware of its destructive effects, and anxious to prevent them. The great interest in the subject which has been awakened is exhibiting itself, amongst other ways, in a widely-spread agitation against the window-tax. Meetings have been held, not merely in several of the metropolitan parishes, but in the provincial towns; a deputation of delegates had an interview with Sir Robert Peel, ineffectually; the matter has been broached in the House of Commons, and petitions are to be forwarded to aid in obtaining the removal of this obnoxious impost.

All are unanimous in terming it a tax on cleanliness, a tax on ventilation, a TAX ON HEALTH.

"A window-tax is an injustice," says one, "and of the grossest kind, to all classes and conditions of men. We may be told that houses under seven windows being exempted, the tax does not fall upon the poor; but if we consider how many of this class live crowded in large lodging-houses, and how many families occupy, for economy's sake, the same domicile, we find that only a fraction of the poor

are freed from the weight of this impost. Besides we urge upon higher grounds, that the free light and air of heaven have no right to be supplied in limitation to mankind. God gave them abundantly to satisfy the necessities of his creatures, and no man has a right to rob his fellow-man of their full service. It has been proved by the statistics of public health, that the maladies and mortality of the poor are mainly owing to want of pure air. Is it not, we ask, the most flagrant tyranny to limit a man to a domicile lighted and ventilated by only seven windows, and to tell him, if he knocks out a few extra bricks that he may breathe more freely, he must pay for his privileges? Can any greater dishonour be perpetrated upon humanity than to confine it under conditions which are noisome and unhealthy, and should it desire better things, to visit the improvement with a penalty? The wealthy, to whom such an infliction is no burthen, can afford to protect themselves against an impure air, and the prospects of infection, but the poor man must be sacrificed either in his health or his pocket."

As Mr. Hickson too, justly observed to the Health of Towns Commissioners, "The window-duties as now assessed operate as a premium upon defective construction. The legislature now says to the builder—Plan your houses with as few openings as possible; let every house be ill-ventilated by shutting out the light and air, and as a reward for your ingenuity you shall be subject to a less amount of taxation than your neighbours." Sir Robert Peel said, in his late financial statement:—"It is supposed that a case is made out for the remission of the window-duties. Just let us look at the case of the duty on glass, and see what a much greater effect it will have upon the comfort of the labouring classes. Let us see how much more advantageous to the community will be the reduction of the duty on glass than the reduction of the window-duties. There are in Great Britain, as it is estimated, about 3,500,000 houses. There are not more than 500,000 houses which are chargeable with the window-tax. There are therefore 3,000,000 houses which require glass for the purpose of comfort, which, if you sanction the removal of this tax, you are about to benefit." Now the first part of this statement, if correct, and which the Premier seemed to consider a triumphant argument against the supposed necessity of a remission of the window-duties, is in reality a strong argument in favour of the loudly called for remission, since it shews that there is an immense number of residences badly, or much less perfectly, ventilated than they ought to be. Without questioning the good effects which will follow the reduction of the duty on glass, we would say, how much will it avail the poor man to know that glass windows can be formed more cheaply than before, when he cannot have the advantages of them because of this hurtful and unholy impost?

The question is one of vital importance to the public; we hope that the recommendation of the metropolitan delegates will be attended to, and that the rate-payers of every city, town, and parish, will present petitions to the House of Commons, praying for a repeal of the inconvenient, unsatisfactory, and unequal window duties; they are a tax on architectural appearance, a tax on cleanliness, a tax on HEALTH, and we might add, a tax on MORALITY,—for the connection between dark, dirty ill-ventilated dwellings, and degradation and vice, is close and indisputable.

MR. COCKERELL'S SIXTH LECTURE ON ARCHITECTURE.

On Thursday, the 13th instant, the professor concluded his course at the Royal Academy. He said he had confined himself to Roman architecture because it was the most practicable for us of all the styles, uniting variety, convenience, and applicability, and because Canina's work, already so often alluded to, illustrated so many works of this style. It was to be regretted the students had not referred with him to the original authors. Few of them unfortunately had made themselves acquainted with the modern languages, and the best works on their art were therefore a dead letter with them. We were greatly deficient in thought, in English works calculated to exalt the mind and increase the resources of the student; comparatively worse than we used to be. In 1610, an edition of Serlio was published, and various editions of Palladio in English followed. None of the architectural classics had been published since, with the exception of Mr. Gwilt's version of Vitruvius, which was a very good translation. Fragments of Vassari were published, but not the complete work, which was to be regretted, as it ought to be generally read. It had been translated into French only recently. Many of the modern works, published every day in Italy, Germany, and France, deserved to be studied. Any foreign catalogue would shew how deficient we were in books of the same description. He wished the body of English architects, taking Quatremere de Quincy's Dictionary as a model, would produce a perfect cyclopædia of the art, one man executing one part and one man another, under the direction of an accomplished editor. All would surely be glad to aid in such a work, which would be of the greatest use, and would reflect dignity and glory on all concerned. It especially devolved on the association of architects now in existence. He trusted he was not stepping out of his path in making this suggestion; such a work was not within the province of the Academy, and he was anxious to see it commenced.

The professor then proceeded to treat of the Triumphal Arch as an especial feature of Roman architecture. It was gratifying to find that the recent applications of monuments of triumph were in commemoration of great and good men rather than of conquests. The late war might well have produced triumphal monuments, but had not done so, the sense of the country was against it; our great captain said the army had only done its duty; and Nelson looked to nothing beyond a place in Westminster Abbey. Our rivals had raised the Arc de l'Étoile, and must feel abashed by our forbearance.

All must admire the Roman triumphal arches; the earliest had but a single arch: they were probably perfected by Apollodorus, in the time of Trajan. The propylæa of Egyptian buildings were somewhat analogous.

After explaining the proportions adopted by the Romans in their triumphal arches, the professor remarked there were two ways of varying these proportions, namely, by the supply of height or the supply of width. The sublime was produced by excess of either. The sublime produced by excess of latitude was seen under the large arch of a bridge. He urged the application of the triumphal arch for a railway arch, and said for a novel purpose a novel effect should be sought. He then referred to the *quadribrons*, or arch of four faces; and suggested that such monuments might be introduced with effect in our circuses, in Regent street, and elsewhere, as memorials of great men. The Obelisk to Waltham at the end of Bridge-street, was not of great cost, nor important as a work of art, but nevertheless, as a memorial of an honest and able citizen, had a striking moral effect.

He would next direct their attention to the mausoleum. That at Xanthus, which was described in the 4th century (uniting architectural and sculptural decorations), was very important in an archaeological point of view, as it served to guide us to that of Mausolus, which from its magnificence gave the name to all buildings of that class. Pliny said the latter was one of the wonders of the world. Scopas and four other sculptors were employed upon it. The professor exhibited a restoration of it, according to Pliny's account, shewing a